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About the Presenters

Nathaniel Dell, AM, LMSW leads the research and evaluation team at Places for People, Inc, a community mental health center in St. Louis, MO. Previously, he had conducted outreach in homeless shelters and hospitals for persons experiencing severe mental illness. He received a Master of Arts in the Humanities from the University of Chicago ('12), and a Master of Social Work from Saint Louis University ('16). He begins his Ph.D. in Social Work at Saint Louis University in autumn of 2017. His research has appeared in *Trauma, Violence, & Abuse, Research on Social Work Practice*, and *Review of Educational Research*.

Diane Maguire, BS, RN has worked in Community Mental Health for 18 years; as a Assertive Community Treatment nurse case manager and team leader, one of the first Healthcare Home Directors in Missouri and continues in this role, directing integration of physical health care services at Places for People. Diane provides training and supervision in motivational interviewing, trauma informed care, and substance use treatment, in conjunction with providing chronic disease self management strategies and health promotion for staff serving people with severe and persistent mental illness and substance use disorders.

Objectives

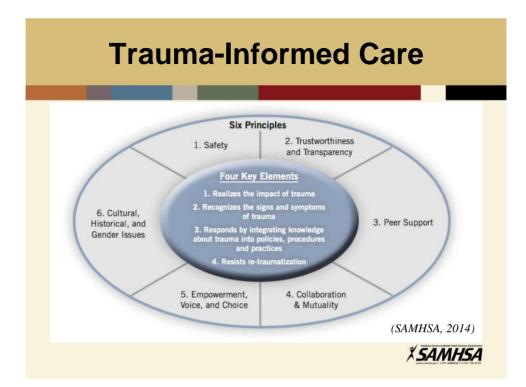
Attendees will receive an overview of the:

- (a) Organizational Changes, (b) Workforce Development, and (c) Clinical Interventions that promote:
 - Trauma-informed care
 - Physical and behavioral healthcare integration
- Health issues related to types of psychological trauma exposure
- Role of engagement in promoting healthier BMI in persons with childhood sexual assault



Trauma-Informed Care

- **Trauma Exposure:** involves "actual or threatened death, serious injury, or sexual violence" that is either directly experienced or witnessed, or learning that any traumatic experiences have happened to a loved one, or having repeated exposure to details of traumatic events (*APA*, 2013, p. 271).
- **Organizational Changes:** use and presentation of physical space; agency policies (who contributes frontline staff, persons served, family members?); CQI efforts & evaluation; collaborate with other agencies
- Workforce Development: safety and secondary trauma; education around prevalence of trauma-exposure in person served; best practices for engaging with those who have experienced trauma
- Clinical Screening & Intervention: structured process for screening and referral to trauma treatment; collaborative treatment planning; soliciting feedback; EBPs (Hanson & Lang, 2016).



Physical Health & Trauma Exposure

- Exposure to one or more traumatic events has been found to be a significant risk factor for poor health, mental health and substance use conditions
 - As individuals are exposed to more traumatic events in their lifetime, their likelihood of experiencing poor physical health and substance use behaviors increases (Del Gaizo, Elhai, & Weaver, 2011)
- Physical health risks associated with trauma exposure:
 - Gastrointestinal, musculoskeletal, and cardiovascular health complications including dyslipidemia, hypertension, diabetes, obesity, and cardiovascular disease (Hall, Hoerster, & Yancy, 2015)
- Childhood Sexual Abuse (CSA) is linked to obesity in adulthood
 - Experiencing childhood sexual abuse is associated with poorer health status
 and greater PTSD-symptom severity. Several studies report that those who
 have experienced childhood sexual abuse have an increased risk for higher
 weight and obesity in adulthood (Cusack, 2004).

Physical Health and Trauma Exposure

Arousal Symptoms

- Fear of bodily arousal symptoms (e.g. rapid heart rate, shortness of breath) decreases likelihood to exercise
- Hyper-arousal symptoms and sleep disturbances common in PTSD are strongly associated with inactivity

Unsuccessful Coping Strategies

• Unhealthy coping behaviors such as smoking, alcohol use, and overeating make it more difficult to engage in exercise and contribute to obesity

• Low Self-Efficacy & Social Support

• Can also contribute to physical inactivity and unhealthy diet

(Hall, Hoerster & Yancy, 2015)



Healthcare Integration for Adults with SMI

Integrated care addresses fragmentation of services

- Compare: past bifurcation of substance use and mental health treatment
- BH & PC services typically provided by multiple providers, which is problematic for adults with SMI due to the greater likelihood of chronic medical complications and barriers accessing quality care
- Increase in communication leads to more adequate treatment (Lewin Group, 2012)

Integrated care significantly improves health outcomes

- Increased morbidity and premature mortality is linked to mental illness and comorbid conditions
- Incorporates the relationship between physical and mental health conditions along with environmental influences and social functioning for comprehensive treatment (Lewin Group, 2012)

Lower health-care costs

Greater access to primary care, less duplication in services, and coordinated follow-up care (Lewin Group, 2012)

Organizational Changes

- Implementation committees
- Community partnerships
- Nurses integrated into each case management team
- Pharmacy on-site; labs on-site
- Expanded wellness center utilization
- Electronic medical record updates (E-labs)

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Workforce Development

- Ongoing, all-staff trainings that promote physical health integration education on topics such as:
 - Integrated Health/Healthcare Home Training *
 - Disease Management Orientation" *
 - Opioid Trainings (i.e. use of Naloxone, MAT)
 - Wellness trainings* & Medication Trainings
 - Trauma Exposure and Engagement Strategies

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Clinical Interventions

- **Individualized, inter-disciplinary supportive services** with Physical Health Integration Team (PHIT)
 - Nurse, Community Support Worker, Peer Specialist, Occupational Therapist & Nutritionist
- Development of peer-and clinician-led groups
 - WHAM & NEW-R Groups
 - Freedom from Smoking Group
 - Seeking Safety
 - TREM and M-TREM
 - Cognitive Processing Therapy (CPT)
 - Community Reinforcement Approach (CRA)



Demographics (n=93)

- Gender
 - 52.7 percent Male; 46.2 percent Female; 1.1 percent Transgender
- Race & Ethnicity
 - 59.1 percent African-American; 25.8 percent White; 11.8 percent Other; 3.2 percent Refused; 2.2 percent Hispanic
- Education
 - 38.7 percent No HS Diploma; 31.2 percent HS Diploma/GED; 27 percent Attended College; 2.2 percent Vocational School; 1.1 percent Refused
- Veteran Status
 - 4.4 percent Prior Military Experience
- **Employment**
 - 7.5 percent Employed; 32.3 percent Unemployed; 57.0 percent Disabled; 3.2 percent Refused X SAMHSA

MH Diagnosis & Trauma Exposure

Dx	N (135)	Overall %	Primary Dx %
Psychotic Disorders	54	58	57
Major Depression	19	20	15
Substance Use	16	17	0
Bipolar Disorders	15	16	16
PTSD	15	16	9
Anxiety Disorders	10	11	2
Other	6	6	1

Traur	Trauma Hx	
	N (%)	M (SD)
None	13 (14)	13.92 (12.14)
CSA	40 (43)	35.28 (18.38)
Other Trauma	38 (41)	27.89 (15.87)
Refused	2 (2)	



Baseline BMI

Gender

- At baseline, females were more likely than males to experience obesity ($\chi 2(3)=8.85$, p=.031).
- Males had an average baseline BMI 4.13 points lower than females (t(90)=2.40, p=.018).

Trauma Type

• Baseline BMI did not significantly differ among trauma types (F(2,88)=.898, p=.411).



BMI Difference

- High engagement in physical health integration services were associated with greater differences in BMI over a six month period. Gender and trauma type did not moderate participants' successes.
 - Overall, there was a significant decrease in obesity status from baseline to six months (z=2.33, p=.020).
- There was a significant difference of BMI between high and low engagement groups (F(1,85)=11.69, p=.001, pη2=.121).
 - The interaction of gender and trauma type on BMI difference was not significant (p=.613).
 - The interaction of level of engagement and trauma type on BMI difference was not significant (p=.478).



Predictors of BMI Difference

- Q: Does baseline trauma symptom severity moderate the relationship between engagement in physical health integration services and BMI difference? A: Not in our sample
- Hierarchical multiple regression analysis was conducted: in the first step, two
 variables were included: hours of engagement over six months and baseline selfreported trauma symptoms in the past 30 days (PCL-5).
- This model accounted for 10 percent of the variance in BMI difference (R²=.100 (Adj. R²=.08), F(2,88)=4.89, p=.010).
- Next, the interaction term between engagement and CSA was added to the regression model, which was not significant (p=.380).

Variable	В	SE _B	β	P
Engagement	044	.014	319	.003
PCL-5	005	.010	052	.609

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Predictors of BMI Difference

- Q: Does a history of childhood sexual abuse (CSA) moderate the relationship between engagement in physical health integration services and BMI difference? A: Not in our sample
- Hierarchical multiple regression analysis was conducted: in the first step, two variables were included: hours of engagement and reported history of CSA.
- This model accounted for 10% of the variance in BMI difference (R²=.100 (Adj. R²=.08), F(2,88)=4.89, p=.010).
- Next, the interaction term between engagement and CSA was added to the regression model, which was not significant (p=.200).

Variable	В	SE _B	β	p
Engagement	044	.014	319	.002
CSA	005	.018	029	.773



Clinical Implications

- Although persons with trauma exposure, especially CSA, may have more complicated physical health issues, outreach and engagement by PHIT staff may help to mitigate initial risk factors and contribute to persons served achieving a healthier BMI
- Staff must understand somatic concerns associated with trauma exposure
- Building partnerships with outside healthcare providers is essential
- Ongoing program monitoring is necessary and must involve different stakeholders and types of measures
- Future evaluation planned:
 - Compare baseline BMI and BMI difference for those who refused to enroll into program, but still receive general HCH services through the agency, in order to examine the effect of individualized physical health integration services.



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Comments & Questions



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